high-school courses in agriculture in many places outside of Massachusetts, resting as they do upon very fundamental principles.

A striking recommendation is that an integral part of each project should be home work, carefully supervised, and credited toward school promotion. It is advised that at least one instructor be on duty during the growing season to carry on this phase of the school activities. The scheme is further elaborated into major and minor projects, with the appropriate divisions of the work into school and home work. Provision is also made for extending the part-time or continuation-school features as widely as practicable.

On the theoretical and administrative side of agricultural education of secondary-school grade this report is one of the most valuable contributions that have appeared. Written ostensibly for a particular state, and related in places to the local geography, it is so constructive in nature as to be suggestive to educational workers in all sections.

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Elements of Physics. By HENRY CREW. Revised by FRANKLIN T. JONES. New York: Macmillan, 1909. Pp. xiv+435. $1.10 net.

"The purpose of the study of physics is quite as much to furnish the student with a logical and easily remembered arrangement of his present knowledge as to put him in possession of new facts." This sentence, taken from the introduction, is the keynote of the book. The two distinctive features that give it character and weight as a high-school textbook are its logical connection of the parts of the subject and its elementary presentation of the facts. Physics is often regarded as a series of more or less disconnected and independent subjects. In this book the authors have succeeded in connecting the various topics so that their relation is apparent to the student.

The subject-matter is treated in ten chapters under the following heads: "Motion," "General Properties of Matter," "Special Properties of Matter," "Waves," "Sound," "Heat," "Magnetism," "Electrostatics," "Electric Currents," and "Light."

The treatment is elementary throughout. A topic is usually introduced with one or more illustrations drawn from phenomena with which the pupil is familiar. The explanation is clear and simple. A statement of the law follows the explanation; and where a mathematical statement is necessary the formula is developed through a process of explanation with a minimum of algebraic symbols. The topic closes with a brief summary. An ample number of problems is given to illustrate the subject, and they are not too difficult for the average pupil.

There is no sacrifice of scientific accuracy or completeness for the sake of elementary treatment. The book covers all the fundamental principles of the science and is fully up to the standard of college-entrance requirement in correctness and detail.

The following special features are worthy of mention as adding value to the book for class use. The historical development of the subject is brought out by frequent notes and references. At the ends of the chapters are placed lists

of references relating to the subjects treated. A synopsis of the metric system, various tables, and a list of useful numbers are given on the inside cover pages. The appendix contains a list of review questions. These questions have been selected from the examination papers of schools in all parts of the country, and will serve the double purpose of providing a convenient means of review and of comparing the ability of the pupil with the accepted standard of attainment for high-school pupils. As a means of assisting the pupil to apply principles and avoid an unintelligent use of the formulae in the solution of problems, a few analytical solutions have been placed in the appendix.

The Apprentices' Course of Experimental Physics and Mechanics. By JAMES L. MAXIM. London: Longmans, Green & Co., 1909. Pp. xiv+112. $0.50.

This is a beginner's course in technical physics, entirely experimental and on a quantitative basis. It is designed to meet the requirements for the first and second-year preliminary technical examinations of the Lancashire and Cheshire Union of Institutes, the Oxford and Cambridge examinations in elementary science, and the requirements of the Board of Education for the Preliminary Certificate.

The course is divided into four sections: The first section, dealing with measurements, contains ten lessons. Section two considers, in ten lessons, the measurement of densities and the hydrostatic principles upon which their determination depends. Section three consists of eleven lessons on mechanics. The fourth section takes up heat in seven lessons. At the end of each section there is a set of questions for a written test paper and a set of exercises for a practical paper. At the end of the book there are a list of additional experiments, and several pages of examination questions. The Appendix contains a large number of useful tables.

The material of the book is condensed. The greatest accuracy and carefulness in the measurements are insisted upon. Numerous drawings, diagrams, and graphs are prescribed. The book contains a great many diagrams to illustrate apparatus and processes of measurement. The author has made no attempt to write interesting instructions or discussions, but he has compressed a great deal of useful information into a small volume, and the experiments are so clearly outlined that they will not lack interest to the earnest pupil.

The book contains no discussion of sound, light, or electricity, and hence is not adapted to the demands of the general course in American high schools; but for pupils preparing to enter a technical course in mechanics it will prove a most excellent book.

Physical Laboratory Manual for Secondary Schools. By CHARLES F. ADAMS. New York: American Book Co., 1909. Pp. 192. $0.60.

The course is systematically arranged in seven chapters, with ten exercises on simple measurements, eight on mechanics of solids, twelve on the mechanics of fluids, eight on sound, twelve on light, nine on heat, and nineteen on magnetism and electricity. Practically every fundamental or important principle in physics is involved in one or more of the seventy-eight experiments.

Mr. Adams has put into the book not only his knowledge of the subject and